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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,204	09/28/2000	Ted Chongpi Lee		8791

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EXAMINER	
OSMAN, RAMY M	

ART UNIT	PAPER NUMBER
2157	6

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/672,204	LEE ET AL.	
	Examiner	Art Unit	
	Ramy M Osman	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. This communication is responsive to the amendment filed on February 4, 2004. Claims 1,2 and 12-16 were amended. Claims 1-23 are pending. The rejections cited are as stated below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3,7-10 and 12-23 rejected under 35 U.S.C. 102(b) as being anticipated by Morley et al. (CCBR, Optimal Loading of SONET BLSRs).

4. In reference to claims 1,7,12,17 and 21 Morley teaches the method, comprising the steps of:

determining a first circuit path between a source node and a destination node in a Synchronous Optical Network (SONET) ring comprising a plurality of nodes interconnected by links, each of said links having associated with it a plurality of facilities, each of said facilities having associated with it a respective bandwidth utilization level, said facilities having bandwidth utilization levels exceeding a first threshold level are not used to define said first

circuit path (pages 1-3, Morley discloses determining a path between two nodes on a SONET ring comprising a plurality of nodes interconnected by spans. Each span has a line capacity *c*, and if the total bandwidth demand on any span exceeds the threshold capacity *c* then that path and direction is not used).

5. In reference to claims 2,8,13,18 and 22, Morley teaches the method of claim 1, further comprising the step of:

selecting a second circuit path in the opposing direction to said first circuit path where facilities having bandwidth utilization levels below a first threshold level in said first path can not be found for a Bi-directional Line Switched Ring (BLSR) (pages 1-3, Morley discloses choosing the other direction in a SONET BLSR if the total load on the spans do not exceed capacity *c*).

6. In reference to claims 3,9,10,14-16,19,20 and 23, Wan teaches the method of claim 1, further comprising the step of:

Adjusting said threshold level where the bandwidth utilization levels of facilities in said second path exceed said first threshold level (pages 4 and 5, Morley discloses capacity c as a variable which can be adjusted).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al. (CCBR, Optimal Loading of SONET BLSRs) in view of Wan et al. (IEEE, Load Balancing in Counter Rotated SONET Rings).

9. In reference to claim 4, Morley teaches the method of claim 2. Morley fails to explicitly teach wherein said first circuit path is a short path. However, Wan teaches short path routing between a source and destination node to achieve optimal load balancing transmissions (columns 1-3, 14-16 and figure 1).

It would have been obvious to one having ordinary skill in the art to modify Morley by specifying that the first path is a short path as per the teachings of Wan so to achieve optimal load balancing.

10. In reference to claim 5, Morley teaches the method of claim 2. Morley fails to explicitly teach wherein said second circuit path is a long path. However, Wan teaches routing heavy requests along a long path between source and destination nodes (columns 1-3,14-16 and figure 1).

It would have been obvious to one having ordinary skill in the art to modify Morley by specifying that the second path is a long path as per the teachings of Wan so as to route heavy loads which exceed the threshold of the first path, as Morley teaches, along another path.

11. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morley et al. (CCBR, Optimal Loading of SONET BLSRs) in view of Budka (U.S. Patent No. 6,014,567).

12. Morley teaches the method of claim 3. Morley fails to explicitly teach wherein personnel are notified of a lack of facilities. However, Budka teaches generating indications that a line is "congested" and cannot take any load (column 3 line 50 – column 4 line 67).

It would have been obvious to one having ordinary skill in the art to modify Morley by taking an action that will show that a line is congested and cannot support anymore load as per the teachings of Budka so that appropriate action can be taken by any personnel or device notified by this action.

Response to Amendment

13. The examiner acknowledges the amendments made to claims 1,2 and 12-16.

14. Applicants amendments to claims 1 and 2 remove the previously indicated minor informalities and thus the examiner withdraws the objection to claim 2.

15. Applicant clarified the term "facilities" as it pertains to the invention and thus the examiner withdraws the 35 USC 112 first paragraph rejection of claims 1-23.

Response to Arguments

16. Applicant's arguments filed 2/04/04 have been fully considered but they are not persuasive.

17. Applicant argues that Morley fails to teach, suggest or disclose the elements of the claimed invention, specifically regarding claim 1.

Anticipating claim 1, Morley discloses SONET ring networks and recites:

"A BLSR consists of a group of nodes interconnected by transmission systems to form a closed loop or ring ... Route all of the demand between a pair of nodes in either one or the other direction around the ring ... A ring with n nodes and n spans ... Associated with R(ring) is a set of demands available for loading into the ring ... Transport signals may be routed in either direction around the ring provided that the load on any span does not exceed its line capacity c ... Each demand is routed in either clockwise or counter-clockwise direction ..." (excerpts from pages 1-3)

Therefore, Morley teaches routing demand (aka Bandwidth) between a pair of nodes on a SONET ring with a plurality of nodes, on a plurality of spans, with each span in the ring having associated with it respective demand loaded into it, and when a demand carried on a span in the ring is large relative to the spans line capacity, then that span will not be used to define a transport circuit path.

18. In response to applicant's argument, regarding claims 4,5,6 and 11 that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

19. In regards to claims 4 and 5, Morley teaches routing signals in either direction around a SONET ring so that the demand does not exceed the line capacity, and that the demand is routed

either clockwise (first path) or counter-clockwise (second path). Morley does not teach wherein said first circuit path is a short path and second path is a long path.

However, Wan teaches routing a signal in a SONET ring either along a short path or a long path. In figure 1, Wan shows a path x_i as a short path and shows path $d_i - x_i$ as a long path. The signal can be routed in either of these directions. (columns 1-3,14-16 and figure 1)

Therefore, it would have been obvious to one having ordinary skill in the art to modify Morley by specifying that the first path is a short path and the second path is a long path as per the teachings of Wan so as to route heavy loads which exceed the threshold of the first path of a ring, as Morley teaches, along another path in the ring which would be the long path of Wan.

20. Applicant states that the publication date for Wan is not properly cited. On document form PTO-892 examiner cited the publication date of Wan as 1999, which is before applicants filing date of 9/28/2000. Furthermore, as was included with the Wan reference, http://ieeexplore.ieee.org cites the Wan reference with Meeting Date: 9/21/1999 – 9/24/1999 and Publication Date: 1999.

21. In regards to claims 6 and 11, Morley teaches that when demand on a SONET span exceeds the line capacity, then an action is taken. This action is to route the demand in another direction. Morley does not explicitly teach wherein the action that is taken is: personnel are notified of a lack of facilities.

However, Budka teaches controlling communication load on a network which includes setting a line capacity flag to "congested" when the line cannot take any more load. This line

capacity flag will indicate to any personnel who may be monitoring this network that a line is congested which means that there will be a lack in the lines.

It would have been obvious to one having ordinary skill in the art to modifying the action taken by Morley to include an indication that a line is congested and cannot support anymore load as per the teachings of Budka so that appropriate action can be taken by any personnel or device notified by this action.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramy M Osman whose telephone number is (703) 305-8050. The examiner can normally be reached on Monday through Friday 9AM to 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703) 305-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMO
April 14, 2004

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